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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,162	09/15/2003	James M. Cleaves	6398P001	2835
7590	12/29/2005			
Edwin H. Taylor Blakely, Sokoloff, Taylor & Zafman LLP Seventh Floor 12400 Wilshire Boulevard Los Angeles, CA 90025-1030			EXAMINER RAABE, CHRISTOPHER M	
			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/663,162

Applicant(s)

CLEEVES, JAMES M.

Examiner

Christopher M. Raabe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5,7,8,10-13,15-18,20,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5,7,8,10-13 and 15-17 is/are allowed.
- 6) ☒ Claim(s) 18,20,22,23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

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### **DETAILED ACTION**

1. Amendment filed October 11, 2005 has been entered and acknowledged by the examiner.

### ***Response to Arguments***

2. Applicant's arguments, see pages 6,7, filed October 11, 2005, with respect to claims 1,5,7,8,10-13,15-17 have been fully considered and are persuasive. The rejections of these claims have been withdrawn.

Applicant's arguments, see pages 8,9, filed October 11, 2005, have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Rado et al. (USPN 4004562).

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With regard to claim 18,

Rado et al. disclose a spark plug comprising: a first and a second electrode defining a first gap (30,28 of fig 1); a third and fourth electrode defining a second gap, the first and second gaps traversing one another, the second gap being smaller than the first gap (34,36 of fig 1); the first electrode and third electrode being coupled to a first node, the third electrode being coupled to a first resistor to the first node (column 4, line 66 – column 5, line 1); the second electrode and fourth electrode being coupled to a second node; and the fourth electrode being coupled to a second resistor to the second node, whereby the arcing at the second gap causes the first gap to arc (column 6, lines 41-43 and fig 1).

With regard to claim 20,

Rado et al. disclose the spark plug, including a fifth and sixth electrode defining a third gap, the third gap being generally spaced apart and parallel to the second gap, and traversing the first gap, the third being smaller than the first gap (column 6, lines 60-65, numbering the electrodes as in claim 18).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 22,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rado et al. (as above), in view of Hubbard (U.S. Patent 6089201).

With regard to claim 22,

Rado et al. disclose a spark plug comprising: a first electrode (28 of fig 1); a plurality of second electrodes, each having a gap with a first electrode (34,36 of fig 1); a plurality of resistors (38,40 of fig 1), each connecting one of the second electrodes to a common node (column 4, line 66 – column 5, line 1).

Rado et al. do not disclose each of the gaps having approximately the same distance from the first electrode, and each having a clear path to the first electrode.

Hubbard does disclose each of the gaps having approximately the same distance from the first electrode, and each having a clear path to the first electrode (28, 24 of fig 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the configuration of Hubbard into the spark plug of Rado et al. in order to generate a large spark for ignition under startup conditions (column 4, lines 62-68 of Hubbard).

With regard to claim 23,

Rado et al. disclose the spark plug, wherein the first electrode is coupled to an outer member of the spark plug (column 3, line 41), and wherein the common node is coupled to a high voltage (column 3, lines 43-45).

***Allowable Subject Matter***

7. Claims 1,5,7,8,10-13,15-17 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art, while disclosing a spark plug with a plurality of electrodes forming a plurality of gaps, does not disclose the gaps between electrodes to be one third to two thirds an

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optimum gap distance (as defined in applicant's specification), as required by claims 1,5,10. Hence claims 1,5,10 are allowed. Claims 7, 8, 11-13,15-17 are allowed as a result of their dependence on claim 5 or 10.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Raabe whose telephone number is 571-272-8434. The examiner can normally be reached on m-f 7am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CR

  
**ASHOK PATEL**  
**PRIMARY EXAMINER**